

ABSTRACT OF THE DISCLOSURE

A rotor for a synchronous motor capable of increasing output torque and reduce inductance. An outer periphery of each pole of the rotor in a cross section perpendicular to an axis of the rotor is defined on the basis of a curve of a hyperbolic function. Since an outer periphery of one pole of the rotor at a central apex portion is substantially identical with that of a conventional rotor defined by a circular arc, the output torque of the synchronous motor using this rotor is not decreased. At side portions adjacent to the central apex portion, the outer periphery is positioned inner, i.e., closer to the axis of the rotor than the outer periphery defined by the circular arc, so that a gap between the outer periphery of the rotor and an inner periphery of a stator is made greater to reduce the inductance of the synchronous motor.